e-ISSN 3083-6018

SOCIAL DEVELOPMENT: Economic and Legal Issues

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Specifics of Investment and Financial Management in an Innovative Economy: AI in the Fintech Sector as a Way of Managing Risks at the Microeconomic Level

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ARTICLE INFO

Research Article

DOI: 10.70651/3083-6018/2026.4.25

Received:
20 March 2026
Accepted:
22 April 2026
Published online:
24 April 2026

ABSTRACT

This article is devoted to a general analysis of the transformation of investment and financial management systems in the context of an innovative economy for risk management at the microeconomic level. The article substantiates that in an innovative economy, the focus of investment and financial management, and as a result, the efficiency of enterprise operations, shifts from tangible assets to intellectual capital, human potential, and the philosophy of knowledge and technology. New approaches and methods of microeconomic analysis of an enterprise are considered, namely the transition from traditional performance indicators to modern ones, such as the flexible real options valuation method, strategic metrics of market growth, rolling forecasting, and Agile principles. Special attention in the study is paid to the implementation and impact of artificial intelligence in the financial technology sector. Today, the fintech sector demonstrates rapid growth in all areas. It is noted that artificial intelligence plays a key role in business process automation, strategic planning, and minimizing negative impacts at the microeconomic level. Based on statistical data from leading international institutions, the direct positive impact of artificial intelligence on the business processes of fintech companies is analyzed and confirmed. However, like any innovative process, artificial intelligence brings its own specificities, including specific microeconomic risks that enterprises face. Among them, the following are highlighted: cybersecurity risks, data processing and privacy risks, AI-generated deepfakes, systematic risk in financial systems, etc. It is proven that managing specific innovation risks at the microeconomic level requires changes in traditional approaches to innovation and financial management and indicates that the use of innovative technologies in these areas ensures a systemic positive impact on the microeconomic indicators of the enterprise.

KEYWORDS

investment management, financial management, innovative economy, microeconomics, risk management, Artificial Intelligence, financial technologies.

e-ISSN 3083-6018

СОЦІАЛЬНИЙ РОЗВИТОК: економіко-правові проблеми

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Специфіка інвестиційного та фінансового менеджменту в інноваційній економіці: ШІ у фінтех-секторі, як спосіб управління ризиками на мікроекономічному рівні

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СТАТТЯ

Дослідницька

DOI: 10.70651/3083-6018/2026.4.25

Отримана: 20.03.2026 р.
Прийнята: 22.04.2026 р.
Опублікована: 24.04.2026 р.

АНОТАЦІЯ

Ця стаття присвячена загальному аналізу трансформації систем інвестиційного та фінансового менеджменту в умовах інноваційної економіки задля управління ризиками на мікроекономічному рівні. В статті обґрунтовано, що в умовах інноваційної економіки відбувається зміщення вектору інвестиційного та фінансового менеджменту, а як результат і ефективності діяльності підприємства від матеріальних активів до інтелектуального капіталу, людського потенціалу та філософії знань та технологій. Розглянуто нові підходи та методи мікроекономічного аналізу підприємства, а саме перехід від традиційних показників ефективності до сучасних, таких як гнучкий метод реальних опціонів, стратегічні метрики ринкового зростання, ковзне прогнозування та принципи Agile. В дослідженні особливу увагу приділено імплементації та впливу штучного інтелекту у фінансово-технологічному секторі. Фінтех-сектор сьогодні демонструє стрімке зростання у всіх напрямках. Зазначено, що штучний інтелект відіграє ключову роль в автоматизації бізнес-процесів, стратегічному плануванні та мінімізації негативних впливів на мікроекономічному рівні. На базі статистичних даних провідних міжнародних інституцій проаналізовано та підтверджено прямий позитивний вплив штучного інтелекту на бізнес-процес компаній фінтех-сектору. Проте, як будь-який інноваційний процес, штучний інтелект приносить із собою свою специфіку, в тому числі і специфічні мікроекономічні ризики, що очікують на підприємства. Серед них виділено наступні: ризики кібербезпеки, ризики обробки і зберігання особистих даних, діпфейки, згенеровані ШІ, систематичний ризик у фінансових системах тощо. Доведено, що управління специфічними інноваційними ризиками на мікроекономічному півні вимагає змін традиційних підходів до інноваційного та фінансового менеджменту та вказує на те, що використання інноваційних технологій у цих напрямках забезпечує системний позитивний вплив на мікроекономічні показники підприємства.

КЛЮЧОВІ СЛОВА

інвестиційний менеджмент, фінансовий менеджмент, інноваційна економіка, мікроекономіка, управління ризиками, штучний інтелект, фінансові технології.

1. Introduction

Today, the processes of globalization and digitalization are taking place at a breakneck pace [12; 21]. Under such conditions, traditional approaches to the interpretation of effective components of financial and investment management are undergoing radical changes and are subject to the new requirements of the innovative economy. as well as the speed and accessibility of financial services. [3; 17].

On the other hand, such rapid development entails an increase in risks, primarily at the microeconomic level, that is, at the level of enterprises themselves [7]. They are facing an extremely uncertain market environment, which requires the identification of new specifics of investment and financial management actions, which would minimize such challenges and stabilize the situation in risk management at the microeconomic level [22].

It is these opportunities in modern business conditions that the use of artificial intelligence technologies in the fintech sector can provide [1; 15].

2. Literature Review

Several domestic and foreign researchers have dealt with the issues of financial and investment management in the context of the innovative economy. Their works are devoted to changes in financial systems under the influence of the use of AI, big data, blockchain, as well as innovation ecosystems that minimize the negative impacts of risks at the microeconomic level [2; 16]. Scientific papers especially emphasize the growing position of artificial intelligence, including in the financial technology sector [9].

The classic scientific researchers of financial, investment management and risk management include J. Schumpeter, J. Stiglitz and M. Porter, while the works of Raman Nanda, Joshua Lerner, Frances Mead, and Jog Dora focus on the modern innovation economy and touch on the use of venture capital in financing technology companies and innovative entrepreneurship.

3. Problem Statement

The purpose of this study is to identify specific elements of investment and financial management regarding their application in the conditions of an innovative economy. An additional condition is that these elements are the basis for minimizing the risks associated with working in an uncertain environment at the microeconomic level. As an example of a successful combination of these components, the development of AI in the fintech sector is considered.

4. Methods and Materials

A systematic approach, using methods of comparative and structural-functional analysis, allows you to comprehensively study the specifics of investment and financial management in the innovation economy and focus on AI in the fintech sector as a modern need for risk management at the microeconomic level. For this purpose, analytical, statistical data and scientific publications related to this topic were processed [6; 19].

5. Results and Discussion

As a result of transformations, the innovative economy has ceased to be satisfied with traditional ways and methods of managing investments, finances and risks at all levels, including microeconomic [1]. New standards and requirements that meet the modern requirements of the innovative economy give rise to specific approaches to investment and financial management in minimizing risks.

Firstly, the main vector of change is directed from tangible assets to intangible ones: human potential, intellectual capital and technologies [5]. There is a sharp shift in focus from the technical to the technological component of doing business and investment flows. The specificity here is that it is much more difficult to estimate the return on investment in human capital or intangible assets.

Secondly, another specific stage of this process is the existence in the environment of ever-growing uncertainty generated by the very essence of innovation. Statistics show that most innovations fail, which increases the risks of losses for owners in the event of an innovative decision. Therefore, it is financial and investment management that is called upon to find a way and mechanism to minimize such uncertainty at the enterprise level [4]. The solutions they propose could be the use of venture capital and the diversification of the enterprise's investment portfolio.

Thirdly, traditional methods of assessing the effectiveness of projects, such as net present value and internal rate of return, are being replaced by new ones that can work in the face of modern challenges. For example, the method of real options allows you to make flexible decisions in the process of conducting an innovative project. Also effective is the method of focusing on growth metrics rather than profits [8].

Fourthly, the philosophy of flexibility and speed of Agile is rapidly gaining popularity. The rapid aging of plans destroys traditional temporal approaches to planning. Therefore, today they are increasingly using sliding forecasting with updated financial plans monthly or quarterly, as well as flexible phased allocation of resources.

And finally, the digitalization of financial management itself – fintech. The management of all processes, including decision-making, big data analytics, financial monitoring, deep microeconomic analysis and risk forecasting, is automated and occurs through the use of AI, Big Data, blockchain and smart contracts [2; 18]. However, this also creates new risks: cybersecurity risks, risks of processing and storing personal data, AI-generated fakes, systematic risk in financial systems, and others [10; 11].

Despite the high degree of risk, the adoption of artificial intelligence in the global fintech sector continues to grow in all industries [15]. In Figure 1, we see that intelligence is actively implemented in customer service and customer engagement, risk management and process automation [19].

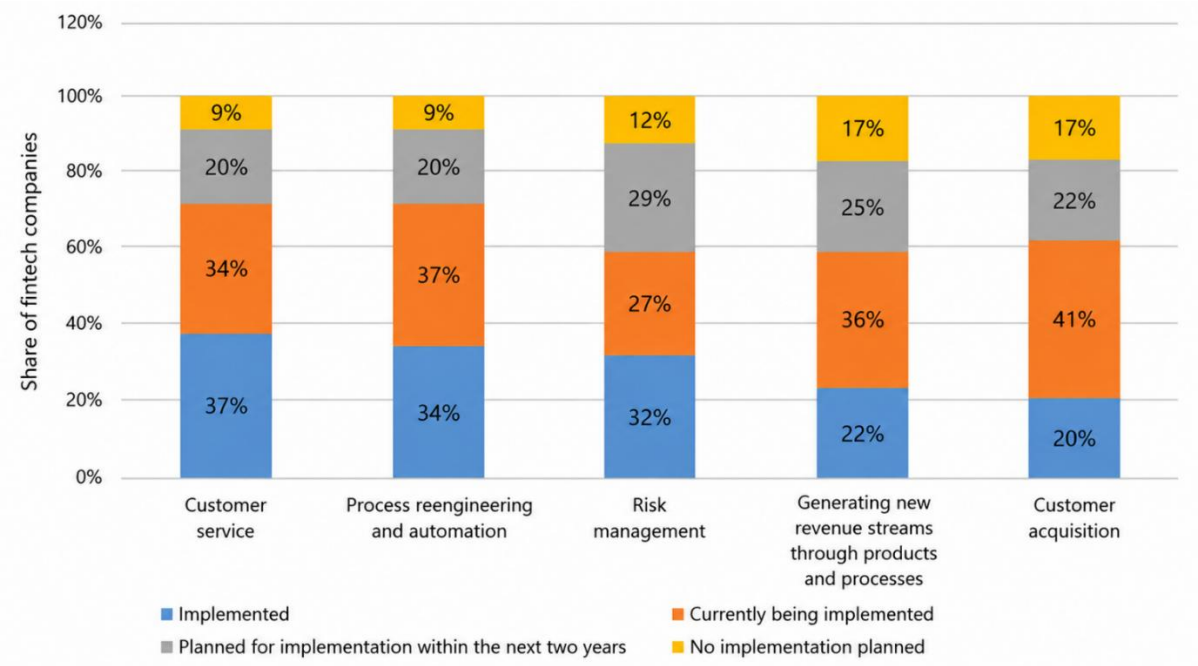

Figure1. Implementation of artificial intelligence in the global fintech sector in 2024 by application

Source: Compiled by the author based on data from the Cambridge Centre for Alternative Finance; Cambridge Judge Business School; World Economic Forum [6; 21].

The highest level of adoption of AI solutions in the global fintech sector is shown by customer service. AI has already been implemented by 37% of the fintech companies surveyed, another 34% were in the process of implementation, and another 20% plan to do so within the next two years. This indicates a great demand from customers for personalized services and other intelligent systems in this direction.

On the other hand, customer engagement showed the lowest results in the industry: only 20% have already integrated AI into their processes, but 41% are at the stage of implementing these

solutions, and 22% plan to do so in the near future. This opens up significant potential for using AI for marketing analysis.

Reengineering and process automation showed results in 34% of AI implemented, 37% actively integrated it into their business processes, and 20% planned to involve it in the coming years. This reflects the trend towards widespread digitalization of the financial sector and optimization of decision-making in this area through process automation.

Separately, it is necessary to note the risk management segment, which shows the use of AI for risk management in the context of the emergence of specific requests of the innovative economy at the microeconomic level. 32% of companies have already implemented AI, 27% are doing it now and 29% are integrating it in the near future. This indicates a growing interest and understanding of the strategic need to use AI to assess, predict and minimize risks [4].

The generation of a new revenue stream through products and processes showed only 22% of implemented solutions, but 36% are at the implementation stage and 25% are planned for implementation in the next 2 years.

Therefore, as a result, we see that in the conditions of an innovative economy, artificial intelligence is dynamically developing and is one of the key factors in the effective development of fintech companies [17].

According to the results of surveys of companies operating in the fintech sector, artificial intelligence has a significant impact on their profitability (Figure 2). This is one of the microeconomic indicators that give a real picture of the vision of the impact of AI on the work of the enterprise and can be used in financial and investment management to predict the minimization of future risks.

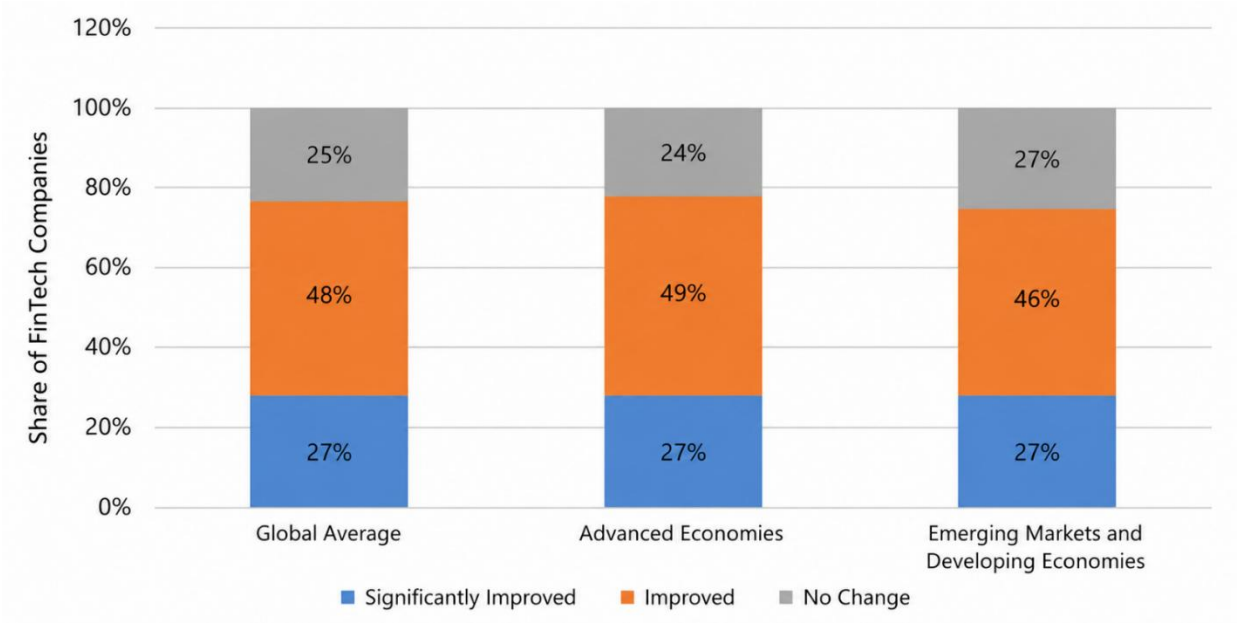

Figure 2. The Impact of Artificial Intelligence on the Profitability of the Fintech Sector in 2024

Source: Compiled by the author based on data from the Cambridge Centre for Alternative Finance; Cambridge Judge Business School; World Economic Forum [6; 21].

It should be noted that the indicators for developed and developing countries are almost the same: 27% noted a significant impact of AI on their profitability, and about 50% of the surveyed fintech companies noted a slight increase in profitability, and only about 25% did not see any changes. Therefore, we can say that the impact of AI on the profitability of the fintech sector, regardless of the level of economic development, is positive.

Another microeconomic indicator that can be used for strategic analysis and planning of an enterprise is business costs. By comparing them with the profitability of the project, we can make fairly accurate forecasts for the future, and the impact of AI on reducing business costs gives a synergistic effect for these two indicators: on the one hand, we reduce costs with the help of AI, and on the other hand, we increase profitability. The impact of artificial intelligence on reducing business costs in the fintech sector at the global level can be seen in Figure 3.

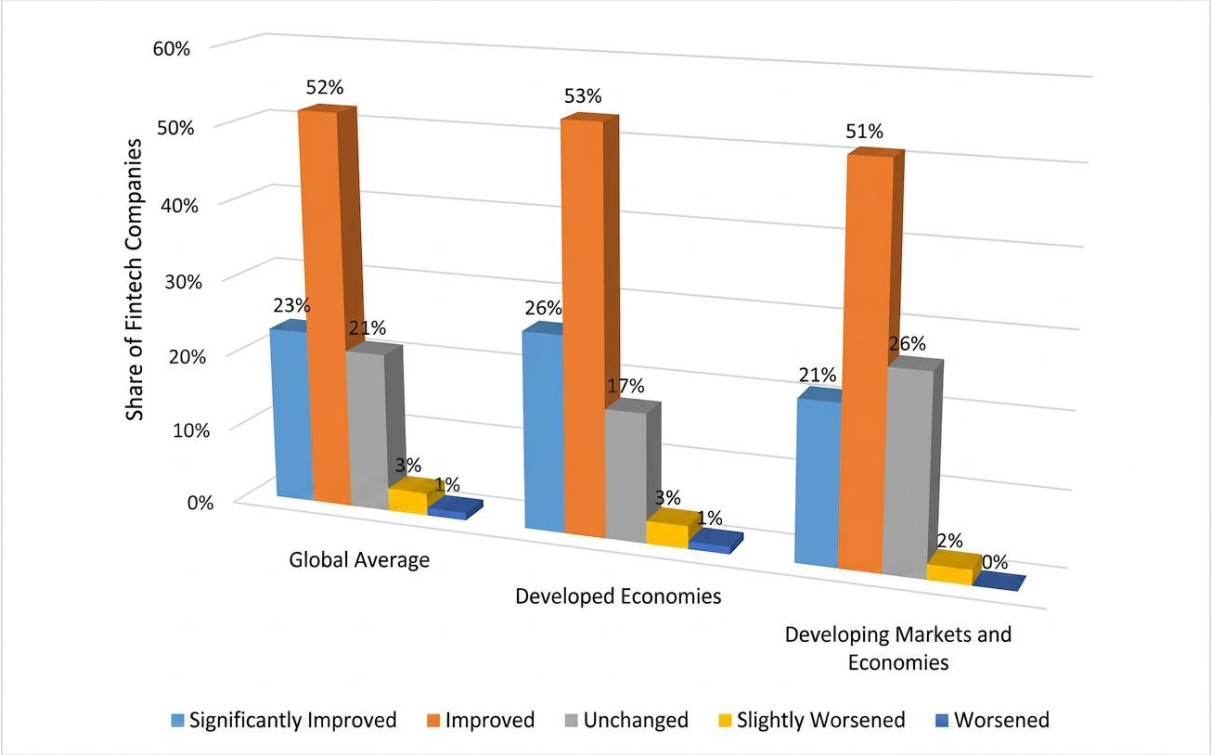

Figure 3. The Impact of Artificial Intelligence on Reducing Business Costs in the Fintech Sector in 2024

Source: Compiled by the author based on data from the Cambridge Centre for Alternative Finance; Cambridge Judge Business School; World Economic Forum [6; 21].

Analyzing the charts, it can be argued that most companies note cost reductions to one degree or another: 23% significantly reduced business costs with the help of artificial intelligence, and 52% confirmed a slight improvement, and only 4% saw a deterioration in economic indicators.

Returning to the critical risks that arise when implementing AI in the fintech sector, it should be noted that their perception by companies differs depending on the risk itself. (Figure 4).

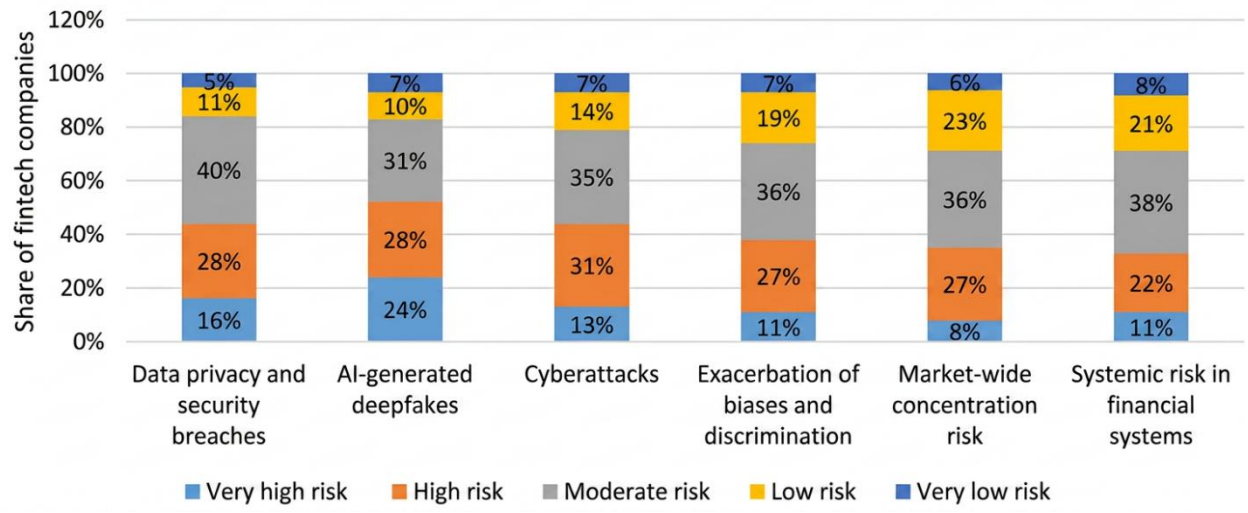

Figure 4. Perception of risks associated with artificial intelligence in the fintech sector in 2024

Source: Compiled by the author based on data from the Cambridge Centre for Alternative Finance; Cambridge Judge Business School; World Economic Forum [6; 21].

Particular attention was paid to the risks of data breaches and deepfakes generated by artificial intelligence. They were noted as moderate, high and very high by 84% and 83% of respondents, respectively. Therefore, the system and technological threats considered should become one of the main areas of decision-making in the investment and financial management of enterprises, as those that critically affect their activities [13; 20].

6. Conclusions

Innovative technologies are increasingly being implemented in modern innovation and financial management [14]. They contribute to the development of new business models, strategic planning, and financial analysis in all sectors of the modern innovative economy, including the fintech sector [3; 17]. With the help of these technologies, enterprises improve their microeconomic indicators, increase the level of customer service and the security of financial transactions, help optimize investment decision-making and minimize risks [18; 22]. However, such an innovative approach requires constant attention and improvement of the implemented systems, because their main problem is the speed of changes in the innovation environment. Therefore, constant adaptation to new technological challenges is becoming a routine for today's existence of companies [1; 13].

References

1. Agrawal, A., Gans, J., & Goldfarb, A. (2022). *Power and prediction: The disruptive economics of artificial intelligence*. Harvard Business Review Press.
2. Andronie, M., Blažek, R., Iatagan, M., Georgescu, I., Dijmărescu, I., & Cocoșatu, M. (2024). Generative artificial intelligence algorithms in Internet of Things blockchain-based fintech management. *Oeconomia Copernicana, 15*(4), 1349–1381. https://doi.org/10.24136/oc.3283
3. Arner, D. W., Buckley, R. P., Zetzsche, D. A., & Veidt, R. (2020). Sustainability, FinTech and financial inclusion. *European Business Organization Law Review, 21*(1), 7–35. https://doi.org/10.1007/s40804-020-00183-y
4. Bi, S., & Bao, W. (2024). *Innovative application of artificial intelligence technology in bank credit risk management* [Preprint]. arXiv. https://doi.org/10.48550/arXiv.2404.18183
5. Brynjolfsson, E., & McAfee, A. (2023). *The Turing trap: The promise and peril of human-like artificial intelligence*. W. W. Norton & Company.
6. Cambridge Centre for Alternative Finance, Cambridge Judge Business School, & World Economic Forum. (2024). *The global fintech ecosystem report 2024*. University of Cambridge.
7. Cevik, S. (2024). The dark side of the moon? Fintech and financial stability. *International Review of Economics*, (71), 421–433. https://doi.org/10.1007/s12232-024-00449-8
8. Chen, S., & Guo, Q. (2024). *Fintech and MSEs innovation: An empirical analysis* [Preprint]. arXiv. https://doi.org/10.48550/arXiv.2407.17293
9. Deloitte. (2024). *AI in financial services survey 2024*. Deloitte Insights.
10. European Central Bank. (2024). *Financial stability review: Artificial intelligence and financial stability*. ECB.
11. Financial Stability Board. (2024). *The financial stability implications of artificial intelligence*. FSB.
12. International Monetary Fund. (2021). *Powering the digital economy: Opportunities and risks of artificial intelligence in finance*. IMF.
13. Khan, A., & Malaika, M. (2021). *Central bank risk management, fintech, and cybersecurity* (IMF Working Paper No. 21/105). International Monetary Fund. https://doi.org/10.5089/9781513582344.001
14. Loiacono, G., & Rulli, E. (2022). ResTech: Innovative technologies for crisis resolution. *Journal of Banking Regulation*, (23), 227–243. https://doi.org/10.1057/s41261-021-00154-4
15. McKinsey Global Institute. (2024). *The state of AI in 2024: Generative AI's breakout year*. McKinsey & Company.
16. Organisation for Economic Co-operation and Development. (2023). *Artificial intelligence, fintech and financial markets*. OECD Publishing.
17. PwC. (2024). *Global fintech report 2024: AI-driven financial transformation*. PricewaterhouseCoopers.
18. Sachan, S., Almaghrabi, F., Yang, J.-B., & Xu, D.-L. (2024). Human-AI collaboration to mitigate decision noise in financial underwriting: A study on FinTech innovation in a lending firm. *International Review of Financial Analysis*, (93), Article 103149. https://doi.org/10.1016/j.irfa.2024.103149
19. Statista. (n.d.). *Statista*. https://www.statista.com
20. Tkachenko, N. (2024). *Integrating AI's carbon footprint into risk management frameworks: Strategies and tools for sustainable compliance in banking sector* [Preprint]. arXiv. https://doi.org/10.48550/arXiv.2410.01818
21. World Economic Forum. (2023). *The future of global fintech: Towards resilient and inclusive growth*. WEF.
22. Zhang, Y., Wang, Y., & Pisarenko, Z. (2024). Operational risk management in the fintech industry: A comparison of practices in Russia and China. *Modern Economy Success*, (6), 126–135. https://doi.org/10.58224/2500-3747-2024-6-126-135